

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 2005-0002-UST

In the Matter of the Petition of

LOIS GREEN AND PATRICIA KELLY

For Review of Denial of Petroleum Underground Storage Tank Site Closure
1010 Broadway Avenue (Canton Cafe Site), Eureka, California

BY THE BOARD:

Lois Green and Patricia Kelly (petitioners) seek review of the decision of the Humboldt County Local Oversight Program (County) not to close petitioners' case involving an unauthorized release of petroleum at their site located at 1010 Broadway Avenue, Eureka, California. For the reasons set forth below, this Order determines that petitioners' case should be closed and no further action related to the release should be required.

I. STATUTORY AND REGULATORY BACKGROUND

Owners and operators of underground storage tanks (USTs) and other responsible parties may petition the State Water Resources Control Board (SWRCB) for a review of their case if they feel the corrective action plan for their site has been satisfactorily implemented, but closure has not been granted. (Health and Saf. Code, § 25296.40, subd. (a)(1).) The SWRCB has adopted regulations that govern the site closure petition process. (See California Code of Regulations, Title 23, Chapter 18, Article 6.)

Several statutory and regulatory provisions provide the SWRCB, Regional Water Quality Control Boards (RWQCB) and local agencies with broad authority to require responsible parties to clean up a release from a petroleum UST. (e.g., Health & Saf. Code, § 25296.10; Wat. Code, § 13304, subd. (a).) The SWRCB has promulgated regulations specifying corrective action requirements for petroleum UST cases (Cal. Code Regs., tit. 23, §§ 2720-2728). The regulations define corrective action as "any activity necessary to investigate and analyze the effects of an unauthorized release, propose a cost-effective plan to adequately protect human health, safety and the environment and to restore or protect

current and potential beneficial uses of water, and implement and evaluate the effectiveness of the activity (ies)." (Cal. Code Regs., tit. 23, § 2720.) Corrective action consists of one or more of the following phases: (1) preliminary site investigation, (2) soil and water investigation, (3) corrective action plan implementation, and (4) verification monitoring. (Cal. Code Regs., tit. 23, § 2722, subd. (a).)

The preliminary site assessment phase includes initial site investigation, initial abatement actions, initial site characterization and any interim remedial action. (Cal. Code Regs., tit. 23, § 2723, subd. (a).) Corrective action is complete at the conclusion of the preliminary site assessment phase, unless conditions warrant a soil and water investigation. A soil and water investigation is required if any of the following conditions exists: (1) There is evidence that surface water or groundwater has been or may be affected by the unauthorized release; (2) Free product is found at the site where the unauthorized release occurred or in the surrounding area; (3) There is evidence that contaminated soils are, or may be in contact with surface water or groundwater; or (4) The regulatory agency requests an investigation based on the actual or potential effects of contaminated soil or groundwater on nearby surface water or groundwater resources, or based on the increased risk of fire or explosion. (Cal. Code Regs., tit. 23, § 2724.) The purpose of a soil and water investigation is "to assess the nature and vertical and lateral extent of the unauthorized release and to determine a cost-effective method of cleanup." (Cal. Code Regs., tit. 23, § 2725, subd. (a).)

SWRCB Resolution No. 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code §13304* also applies to petroleum UST cases. Resolution No. 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. (SWRCB Resolution No. 92-49, Section III.G.) Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. (*Ibid.*)

Resolution No. 92-49 does not require, however, that the requisite level of water quality be met at the time of site closure. Resolution No. 92-49 specifies compliance with cleanup goals and objectives within a reasonable time frame (*Id.* at section III.A.). Therefore, even if the requisite level of

water quality has not yet been attained, a site may be closed if the level will be attained within a reasonable period.¹

The North Coast Regional Water Quality Control Board's (North Coast RWQCB) Water Quality Control Plan (Basin Plan) designates municipal and domestic supply (MUN) beneficial use for groundwater in the Eureka Plain Hydrologic Unit pursuant to SWRCB Resolution 88-63.² The Basin Plan specifies a narrative taste and odor water quality objective (WQO) for groundwater as follows: "Groundwaters shall not contain taste- or odor-producing substances at concentrations which cause nuisance or adversely affect beneficial uses" (*Id.* at p. 3-11.) The Basin Plan also contains the following narrative WQO for Chemical Constituents: "Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits cited in CCR, Title 22, Division 4, Chapter 15, Article 4, Section 64435 Tables 2 and 3, and Section 64444.5 (Table 5) and listed in Table 3-2 of this Plan. Groundwaters used for agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use." (*Id.* at p. 3-11.)

With regard to the WQOs for Chemical Constituents, the Basin Plan has set "Concentrations Not To Be Exceeded In Domestic or Municipal Supply" for benzene, ethylbenzene, and xylene at 1 ppb, 680 ppb, and 1,750 ppb, respectively (*Id.* at p. 3-8). The threshold odor concentration of three common petroleum constituents, ethylbenzene, toluene, and xylene are 29 ppb, 42 ppb, and 17 ppb respectively. (U.S. EPA, Federal Register, Volume 54, No.97, May 1989.) The threshold odor concentration of commercial gasoline (measured as total petroleum hydrocarbon gasoline, or TPH-g) is commonly accepted to be 5 ppb, with 10 ppb giving a strong odor. The threshold odor concentration of commercial diesel (measured as TPH-d) is commonly accepted to be 100 ppb. (SWRCB, Water Quality Criteria (2d ed. 1963) p. 230.). DHS has set primary and secondary MCLs for methyl-tertiary-butyl-ether (MTBE) at 13 ppb and 5 ppb, respectively.

¹ See for example SWRCB Orders WQ 98-04 UST, WQ 98-10 UST, and WQ 03-0001 UST.

² "Water bodies within the Region that do not have beneficial uses designated for them in Table 2-1 are assigned MUN designations in accordance with the provisions of State Water Resources Control Board Resolution No 88-63 'Sources of Drinking Water' policy (Appendix Section of this plan) which is, by reference, a part of this plan. These MUN designations in no way affect the presence or absence of other beneficial use designations in these water bodies." (Basin Plan, p. 2-1.00.)

II. FACTUAL BACKGROUND

A. Site Setting

Petitioners' site is located at 1010 Broadway Avenue (US Highway 101), Eureka, California (Figure 1, Site Location Map) within the Eureka Plain Hydrologic Unit. The site contains a restaurant and an associated parking lot situated in the commercial/industrial area (locally referred to as the "West Side Industrial Area") immediately adjacent to the highway. Down-gradient land use includes a lumber mill and associated log decks and rail yard. An up-gradient gasoline service station undergoing active corrective action is located across the highway (east) from the site and a closed UST site abuts petitioners' site to the north. There are no municipal supply wells located within the City of Eureka.³ The nearest surface water feature, Humboldt Bay, is located about 2,300 feet to the west. Five idle domestic wells have been identified within 1,000 feet up-gradient (east) of the site.⁴

Soils encountered at the site to a depth of about six to ten feet are a mixture of bay mud and imported, unengineered fill and are described on logs of borings as gray to gray-brown sandy silty clay, sandy clay, clayey silt and clayey sand with frequent inclusions of wood fragments or other organic material.⁵ These fine-grained sediments overlie gray, dense, poorly sorted sand with fine gravel that is locally mapped as the Hookton Formation. The Hookton Formation is reported to be of fluvial origin, consisting of reddish-brown to yellowish-brown loosely consolidated clay, sand, and gravel, and yields small to moderate amounts of groundwater to wells from sand and gravel strata.⁶ Wells that are completed in the Hookton Formation a mile or two north of Eureka are reported to be artesian wells, i.e., the groundwater is under confining conditions.⁷

Groundwater at the site is shallow and is typically encountered in borings at three to seven feet below ground surface (bgs). Perched groundwater is encountered in the western half of the site, occurring at two to three feet bgs. The shallow groundwater flows in a generally west to northwesterly

³ The City relies on surface water from the Mad River for its municipal supply. The facility used to divert surface water from the river is located about nine miles north of the City.

⁴ *Results of Domestic Well Survey, Preferential Pathway Evaluation, Former Broadway Shell, 1007 Broadway Avenue*, LACO Associates, June 28, 2001. These wells are likely shallow wells and more than 40 to 50 years old. A review of Well Driller's Reports on file at the Department of Water Resources Northern District office indicates that no domestic supply wells have been drilled within a one-mile radius of the site since 1960. There are no reports on file for the five subject wells.

⁵ Historically, the area from the site to the present day edge of the bay was a tidal mud flat.

⁶ *Geology and Ground-Water Features of the Eureka Area*. USGS Water Supply Paper 1470, R.E. Evenson, 1959.

⁷ *Ibid.*

direction towards the bay. Rainfall runoff, subsurface inflow from the Hookton Formation, and exfiltration from storm sewers are the expected shallow groundwater recharge sources.

B. UST Case History

The site was the location of a gasoline service station in the 1950's through 1962. The current restaurant was built at the site in 1964. There is no documentation indicating when the USTs were removed however, none were found in 1990 when the area where the USTs had been located was excavated to a depth of about eight feet. A soil sample collected from this excavation contained 140 ppm TPH-g; benzene, toluene, ethylbenzene, and xylene (BTEX) were non-detect. Continued excavation removed about 100 feet of piping. A soil sample from this portion of the excavation contained 1.8 ppm TPH-g while BTEX were non-detect. A total of about 50 cubic yards of soil was removed. Analysis of a groundwater sample from the piping portion of the excavation showed non-detect concentrations for all constituents; a groundwater sample from the presumed tank area had a TPH-g concentration of 760 ppb and BTEX concentrations of non-detect, 7 ppb, 23 ppb, and 16 ppb, respectively. The excavation was subsequently back-filled with clean fill. The location of the UST excavation and monitor wells and borings is shown on Figure 2, Monitor Well Location Map.

Between June 1991 and July 1997, five phases of site characterization corrective actions were undertaken, culminating in the submittal of a Corrective Action Plan (CAP) in March 1998. The CAP proposed excavation of three areas of the site and the placement/injection of oxygen releasing compounds (ORC) to enhance in-situ biodegradation of remaining residual petroleum hydrocarbons. The County approved the CAP in June 1998. In May 1999, approximately 530 cubic yards of affected soil was excavated. Soil samples collected from the sidewalls of the excavations were analyzed for TPH-g, TPH-d, TPH-mo⁸, BTEX and MTBE to assess the efficacy of the removal action (Figure 3, TPH in Soil). Soil samples collected at a depth of seven to eight feet from the side walls at the bottom of the excavation at the eastern portion of the site (along Highway 101) had reported concentrations of TPH-d ranging from non-detect to 31 ppm, TPH-g ranging from non-detect to 110 ppm, TPH-mo ranging from non-detect to 84 ppm, BTEX ranging from non-detect to 0.049 ppm, and MTBE was non-detect for all samples. Soil samples collected at a depth of about three feet from the sidewalls at the bottom of the excavation near the northwestern portion of the site had reported concentrations of TPH-d ranging from non-detect to 13 ppm, TPH-g ranging from non-detect to 250 ppm, TPH-mo ranging from non-detect to 19 ppm, and BTEX and MTBE were non-detect for all samples. Three soil samples collected from the base and sidewalls of the excavation near the center of the site were non-detect for all petroleum hydrocarbon constituents except

for one with 22 ppm TPH-mo. ORC was placed in the bottoms of the excavations at the eastern and northwestern portions of the site prior to backfilling with clean fill material.

In May 1999, monitor wells MW-1 and MW-5, which were destroyed during the March soil excavation activity, were replaced (MW-1A and MW-5A), and a seventh well (MW-7) was constructed at the northwest corner of the site. In April 2000, at the request of the County, an additional monitor well (MW-8) was constructed near the western site boundary to characterize groundwater conditions down-gradient of well MW-2. A soil sample from five feet bgs in this boring had a reported TPH-d concentration of 3.6 ppm and TPH-mo concentration of 71 ppm; TPH-g, BTEX, and MTBE were non-detect.

In August 2000, in accordance with the approved CAP, ORC was injected into shallow soil and groundwater along three transects normal to the groundwater flow direction (Figure 4, CAP Implementation). Verification groundwater monitoring conducted subsequent to the ORC injection has shown that detectable concentrations of TPH-g range from non-detect in samples from wells MW-2, MW-6, and MW-7 to 730 ppb⁹ in samples from well MW-1A. Detectable concentrations of TPH-d range from non-detect in samples from wells MW-6 and MW-7 to 750 ppb¹⁰ in samples from well MW-4. A silica gel clean-up of a recent groundwater sample from well MW-5A showed that two thirds of the organic constituents reported as TPH-d were polar non-hydrocarbons, e.g., organic acids, alcohols, and ketones derived from the decomposition of organic material present in soil.¹¹ Detectable concentrations of benzene (no higher than 18 ppb), ethylbenzene (no higher than 5.5 ppb), xylene (no higher than 7.1 ppb), and MTBE (no higher than 3.5 ppb) occur only in samples from well MW-1A.

In October 2001, petitioners requested that the County close the case, citing the corrective actions completed at the site, stability of the petroleum hydrocarbon plume, and active biodegradation of residual petroleum hydrocarbons in site soil and groundwater. The County denied the request in January 2002, citing the need for a site conceptual model. Petitioners appealed the County's decision to the SWRCB on June 3, 2002. On June 11, 2002, the County restated its closure denial, citing groundwater

⁸ A measure of petroleum hydrocarbons molecules characteristic of motor oil.

⁹ These analyses are typically accompanied with the laboratory caveat "Samples do not have the typical pattern of fresh gasoline. However, the results reported represent the amount of material in the gasoline range."

¹⁰ These analyses are typically accompanied with the laboratory caveat "Samples contain material similar to degraded or weathered diesel oil."

¹¹ The sample had a reported TPH-d concentration of 240 ppb before the silica gel clean up and 80 ppb after the clean up.

sample concentrations of TPH-d from five wells, concentrations of TPH-g in four wells, and the benzene concentration in one well, all of which exceed MUN beneficial use WQOs.

III. CONTENTIONS AND RESPONSES

A. CONTENTIONS

Petitioners contend that they have successfully implemented the CAP that was approved by the County and that residual petroleum hydrocarbon constituents remaining in site soil and groundwater present a low risk to public health, safety, and the environment.

County staff contend that the UST case cannot be closed because petroleum hydrocarbon constituents detected in groundwater samples from various site monitor wells exceed the North Coast RWQCB's Basin Plan WQOs for municipal and domestic supply beneficial uses.

B. RESPONSE

For purposes of our analysis, we apply WQOs that protect a MUN beneficial.¹² As explained below, the facts in the record support the finding that the CAP was successfully implemented and that additional soil and groundwater investigation is not necessary. Further, residual petroleum hydrocarbon constituents in shallow soil and groundwater at the petitioners' site do not pose a threat to human health and safety, or the environment, and do not adversely affect current or anticipated beneficial use of water for the following reasons:

- The primary source of the release, the USTs, was apparently removed circa 1964. Later, 580 cubic yards of substantially affected soil was removed (50 cubic yards in 1990, 530 cubic yards in 1999).
- There is no evidence that groundwater at or down-gradient of petitioners' site is being used presently or that it has any likelihood of being used in the future, for domestic or municipal supply.

Additionally, the level of site cleanup is consistent with the maximum benefit to the people of the state and the remaining petroleum hydrocarbons in shallow site groundwater will meet MUN beneficial use WQOs within a reasonable period of time.

¹² As indicated earlier, the RWQCB applies MUN beneficial use to this groundwater pursuant to the Basin Plan and SWRCB Resolution 88-63.

C. DISCUSSION

1. Source Removal: The primary source of the release has been removed, presumably around 1964, and residual petroleum hydrocarbons in soil have been: (1) removed to the extent practicable, (2) reduced through natural attenuation processes to non-detect levels, or (3) degraded to low but detectable concentrations adsorbed to soil. These weathered residual petroleum hydrocarbons have such low solubility that they could not contribute dissolved petroleum constituents to groundwater in concentrations that impair existing or probable future beneficial uses. Of the more than 50 soil samples analyzed from numerous soil borings and the three areas excavated prior to the addition of ORC, only 11 had detectable concentrations of benzene (as high as 0.23 ppm), toluene (as high as 0.11 ppm) ethylbenzene (as high as 6.1 ppm) and/or xylene (as high as 0.79 ppm). These constituents are the most soluble and mobile petroleum hydrocarbons of concern. In contrast, concentrations of TPH-g as high as 140 ppm, TPH-d as high as 500 ppm and/or TPH-mo as high as 2,000 ppm were detected in these samples.¹³ These facts indicate well-advanced degradation of residual petroleum constituents consistent with a 40 to 50 year old release. Areas of the site where samples indicated detectable BTEX concentrations were addressed by the CAP and, to the extent practicable, over excavated in 1999 or targeted with the placement of ORC in 1999 and 2000. No detectable concentrations of dissolved phase BTEX were present in groundwater samples from six of the seven site monitor wells. Only low concentrations of benzene (<0.5 to 18 ppb in 2003) and ethylbenzene (0.85 to 5.5 ppb in 2003) were present in groundwater samples from the well constructed in the former UST excavation (MW-1A)¹⁴ adjacent to Highway 101. Together, this information provides substantial evidence of very limited and localized groundwater impacts remaining from a very old release.

2. Maximum Benefit to the People of the State. Removal of all traces of residual petroleum hydrocarbon constituents contributing to observed concentrations in shallow groundwater would require additional excavation of soil to a depth of about six to eight feet across virtually the entire site and within the Highway 101 right-of-way, i.e., all of the bay mud and imported, unengineered fill containing wood fragments and other organic material. However, while complete removal of detectable traces of TPH-g, TPH-d, and TPH-mo constituents in site soil may be technically feasible, it is not economically feasible. In light of the fact that current or anticipated beneficial uses of groundwater are not threatened, that there is interference preventing accurate TPH analyses of soil and groundwater samples caused by polar non-hydrocarbons derived from decomposition of wood wastes and other organic material present in the

¹³ As discussed later, a large fraction of the organic constituents reported as TPH are polar non-hydrocarbons.

¹⁴ Concentrations of BTEX in groundwater samples from this well were non-detect for the October 2002 and January 2003 quarterly groundwater sampling events; benzene and ethylbenzene were detected at concentrations of 1.9 ppb and 0.85ppb, respectively, in April 2003.

shallow soil¹⁵, and that there is an ever present source of additional low concentration petroleum hydrocarbon impacts (rainfall runoff from the highway), attaining background water quality is not feasible. It is impossible to determine the precise level of water quality that will be attained given the limited residual petroleum hydrocarbon constituents and decaying organic material in soil that remain at the site and within the Highway 101 right-of-way, but in light of all the factors discussed above, a level of water quality will be attained that is consistent with the maximum benefit to the people of the state.

3. Current and Anticipated Beneficial Uses. The remaining concentrations of TPH-g (50 ppb to about 1,000 ppb) and TPH-d (100 ppb to about 500 ppb) (Figure 5, TPH in Groundwater) in shallow groundwater in immediate contact with residual TPH-g and TPH-d adsorbed to soil will likely remain above MUN beneficial use WQOs in a localized volume of surrounding groundwater for a significant period of time. Similarly, concentrations of benzene (benzene is the only BTEX constituent detected in groundwater samples that exceeds MUN beneficial use WQOs and seasonally fluctuates between non-detect and about 20 ppb at the site) in shallow groundwater in the vicinity of well MW-1A will also remain above MUN beneficial use WQOs in a very localized volume of surrounding groundwater for a significant period of time. Municipal and domestic supply beneficial use WQOs for benzene are met within 40 feet down-gradient of the location of the former USTs. Such a limited, isolated scenario will not unreasonably affect existing or anticipated beneficial uses.

In approving alternative levels of water quality less stringent than background, the SWRCB considers the factors contained in CCR, title 23, section 2550.4, subdivision (d). As discussed earlier, the adverse effect on shallow groundwater will be minimal and localized, and there will be no adverse effect on the groundwater in deeper aquifers, given the physical and chemical characteristics of the petroleum constituents, the hydrogeologic characteristics of the site and surrounding land, and the quantity of groundwater and direction of groundwater flow. In addition, the potential for adverse effects to beneficial uses of groundwater is low, given: (1) that nearby, up-gradient water supply wells are not being used; (2) the current and potential future uses of groundwater in the area; (3) the potential for health risks caused by human exposure; (4) the potential damage to wildlife, crops, vegetation, and physical structures; and (5) the persistence and permanence of potential effects, i.e., the environmental fate of the remaining, residual hydrocarbons in site soil and groundwater. Further, a level of water quality less stringent than background is unlikely to have any impact on surface water quality for these same reasons.

¹⁵ The regulatory criteria for TPH in groundwater (5 ppb for gasoline and 100 ppb for diesel) is based on the presence of dissolved-phase petroleum hydrocarbons. Because the TPH analysis does not discriminate between petroleum hydrocarbons and organic nonpetroleum compounds, use of these criteria are technically inappropriate at this particular site.

4. Compliance with Basin Plan Requirements. The final step in determining whether cleanup to a level of water quality less stringent than background is appropriate for this site requires a determination that the alternative level of water quality will not result in water quality less than that prescribed in the relevant Basin Plan. Pursuant to SWRCB Resolution No. 92-49, a site may be closed if the Basin Plan requirements will be met within a reasonable time frame. Concentrations of TPH-g and TPH-d in shallow groundwater in immediate contact with the limited residual petroleum constituents adsorbed to soil will likely remain above their respective 5 ppb and 100 ppb odor thresholds in a localized volume of surrounding groundwater for a significant period of time. This time period will likely be anywhere from a few decades to hundreds of years given that a large proportion of the organic constituents reported as TPH are in fact polar nonhydrocarbons. Concentrations of benzene will likely remain above WQOs for a decade or two. Nonetheless, during this time the residual TPH-g, TPH-d and benzene concentrations above the WQOs detected in shallow groundwater will not pose a threat to current or anticipated beneficial uses.

The limited area where groundwater exceeds MUN beneficial use WQOs is located in the commercial/industrial area adjacent to Highway 101 and it is highly unlikely that a water supply well will be installed at the site or near this area during the period that MUN WQOs are exceeded. Even if that unlikely event occurred, standard well construction practices would prevent the shallow affected groundwater from having any adverse effect on deeper aquifers. Further, it is highly unlikely that TPH-g, TPH-d or benzene detected in site groundwater will migrate substantially beyond its current limited spatial extent. Though the longer chain hydrocarbons comprising TPH-g and TPH-d biodegrade more slowly than certain petroleum constituents, such as benzene, they are more recalcitrant and much less mobile (i.e., less volatile, less soluble, and highly absorbent). Thus, the significant period of time that it will take for water quality in this limited area to meet MUN beneficial use WQOs is a reasonable time frame. Closure of the site, given the facts in this particular case, is appropriate.

IV. SUMMARY AND CONCLUSIONS

1. Residual concentrations of petroleum hydrocarbons, including benzene, at petitioners' site have degraded, and will continue to degrade, due to natural attenuation.
2. Petitioners' site is located in an industrial and commercial area. Surface water sources provide the entirety of the City of Eureka's municipal water supply. No active water supply wells have been identified within a 1,000 feet down-gradient of the site and the nearest surface water body (Humboldt Bay) is 2,300 feet away.
3. For the purpose of considering site closure, we apply WQOs that protect a MUN beneficial use.
4. Given the low permeability and shallowness of the affected water-bearing soils at petitioners' site and minimum well construction standards that require 50 foot sanitary seals in municipal supply wells, the residual, detectable concentrations of highly weathered petroleum hydrocarbons do not pose a threat to human health and safety, or the environment, and do not adversely affect current or probable future beneficial uses of water.
5. Soil and groundwater investigations at petitioners' site have been adequate to delineate contamination.
6. The level of site cleanup is consistent with the maximum benefit to the people of the state.
7. Detectable TPH-g (up to about 1,000 ppb) and TPH-d (up to about 500 ppb) in shallow groundwater in immediate contact with the limited, weathered residual petroleum hydrocarbons adsorbed to soil particles will likely remain above MUN beneficial use WQOs (5 ppb and 100 ppb, respectively) and thus exceed those objectives in a localized, small volume of surrounding groundwater for decades. Benzene concentrations (up to about 20 ppb) will likely remain above MUN beneficial use WQOs in a very localized area (within 40 feet down-gradient of the location of the former USTs) of groundwater for a decade or two.
8. The determination as to what constitutes a reasonable period must be based on evaluation of all relevant factors, including but not limited to the extent and gravity of any threat to public health and the environment during the period required to meet Basin Plan objectives. Although the time required to attain objectives in this particular case is lengthy, it is a reasonable period considering the facts of this case, including that there are no known drinking water wells within 1,000 feet down-gradient of the site; it is highly unlikely that TPH-d, TPH-g, and benzene detected in localized areas of the site will migrate substantially beyond the current limited spatial extent; and it is highly unlikely that this particular very limited area of shallow groundwater will be used directly as a source of drinking water.

9. Therefore, no further corrective action is necessary.
10. The above conclusions are based on the site-specific information relative to this case.

V. ORDER

IT IS THEREFORE ORDERED that petitioners' case be closed and no further action related to the UST be required. The Chief of the Division of Water Quality is directed to issue petitioners a closure letter consistent with Health and Safety Code, section 25296.10, subd. (g)

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on January 20, 2005.

AYE: Arthur G. Baggett, Jr.
 Peter S. Silva
 Richard Katz
 Gary M. Carlton
 Nancy H. Sutley

NO: None.

ABSENT: None.

ABSTAIN: None.


Debbie Irvin
Clerk to the Board